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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 25 of the	)	
Commission's Rules to Establish Rules	)	
and Policies Pertaining to the Second	)	
Processing Round of the Non-Voice,	)	IB Docket No. 96-220
Non-Geostationary Mobile Satellite	)	
Service	)	

To: The Commission

REPLY COMMENTS OF AFFILIATED AMERICAN RAILROADS

The Affiliated American Railroads,[1/] by their undersigned counsel, hereby submit their Reply Comments in response to the Commission's Notice of Proposed Rulemaking ("NPRM") in the above-captioned proceeding[2/] and the comments of other parties in response thereto.

In the NPRM, the Commission proposed rules for the licensing of systems in the second processing round for the non-voice, non-geostationary mobile satellite service ("NVNG/MSS"), also referred to as the "Little LEO" satellite service, which uses

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1/ Affiliated railroads consist of several Class I railroads operating in the U.S. and Canada, all of whom rely extensively on land mobile communications systems operating in frequencies that have been targeted for reallocation for use by non-voice, non-geostationary mobile satellite system.

2/ Notice of Proposed Rulemaking, FCC 96-426 (rel. October 29, 1996). By Order released November 27, 1996, DA 96-1989, the International Bureau extended the filing deadline for comments to December 20, 1996, and for reply comments to January 13, 1997.

constellations of low-earth orbiting (LEO) satellites to provide commercial radio location and two-way data messaging services.

In Comments, filed on December 20, 1996, the Association of American Railroads ("AAR") noted that the interest of the railroad industry in this proceeding is limited to the issues raised at paragraph 78 of the NPRM, in which the Commission requested comment on possible Little LEO use of additional uplink spectrum that was allocated for the Little LEO service at the 1995 World Radiocommunication Conference (WRC-95), and the appropriate use of any additional Little LEO spectrum that might be secured at WRC-97.[3/] Pursuant to this interest, AAR demonstrated that it has not been proven through reliable studies in the record of this proceeding or elsewhere that sharing between land mobile users and Little LEO uplink transmissions is feasible. After reviewing the comments of other parties in this proceeding, the railroad mobile radio users hereby reiterate their contention that sharing has not been proven to be feasible. Furthermore, no reliable basis has been provided by Little LEO proponents to support their claim that significant additional spectrum allocations are needed for Little LEO service at WRC-97. In fact, comments filed by several Little LEO proponents undercut this claim. Accordingly, the Commission should refrain from allocating any additional spectrum to Little LEO use in the U.S. at this time.

3/ NPRM at ¶78. Some of the additional spectrum identified by Little LEO interests is currently used by land mobile communications users, including the railroad industry.

I. SHARING BETWEEN LAND MOBILE USERS AND LITTLE LEO UPLINK TRANSMISSIONS HAS NOT BEEN DEMONSTRATED TO BE FEASIBLE

Contrary to the assertions of several Little LEO proponents, the "sharing studies" that have been conducted to date have not established that sharing between land mobile systems and Little LEO uplink transmissions is feasible or that such sharing will not cause interference to land mobile communications. Several of the Little LEO companies continue to make the claim that sharing is feasible. E-SAT, for example, stated in its comments that "Little LEOs are designed to share frequencies with other users without causing interference to their operations."[4/] However, neither E-SAT nor any other Little LEO proponent has provided reliable studies demonstrating that sharing is feasible. The studies upon which Little LEO proponents heretofore have relied to demonstrate the feasibility of sharing are based upon flawed assumptions concerning the characteristics of land mobile systems. As AAR noted in its Comments, these flawed assumptions result in a significant underestimation of the potential for harmful interference to land mobile communications systems caused by Little LEO uplink transmissions, rendering the studies unreliable.[5/] The Commission should not consider the use of shared frequencies between land mobile and mobile satellite use for uplink transmissions until it has been demonstrated, through accurate and reliable sharing studies, that such transmissions will not cause harmful interference to land mobile communications. Such studies have not been conducted.

4/ Comments of E-SAT, Inc. ("E-SAT") at 22.

5/ Preliminary Report of Informal Working Group 2A (NGSO/MSS Below 1 GHz). November 22, 1996, at 87.

In the NPRM, the Commission also sought comment on a proposal to require each Little LEO user terminal to be equipped with position determination capabilities that would prevent transmissions in countries from which they are not authorized to transmit.[6/] Little LEO proponents unanimously opposed such a requirement on the grounds that it would be too costly and complex and would decrease the overall capacity of their systems.[7/]

The position in their comments is clearly at odds with the position taken by the Little LEO proponents in IWG-2A meetings on position determination capability. In IWG-2A meetings, Little LEO proponents relied on position determination capability in MES equipment as a means to facilitate sharing between Little LEO uplink transmissions and terrestrial fixed service stations.[8/] This inconsistency in the positions taken by Little LEO interests on this issue is important to the railroad industry -- and should be important to the Commission, as well -- because the terrestrial fixed stations have characteristics that are similar to the mobile relay stations employed by railroads and other land mobile

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6/ NPRM at ¶ 101. While this proposal was made in the context of context of trans-border unauthorized operation, as demonstrated below, it also relates to the feasibility of sharing between Little LEO uplink transmissions and land mobile systems.

7/ See Comments of: GE Starsys Global Positioning, Inc. and GE American Communications, Inc. ("GE Starsys") at 27-28; Orbital Communications Corporation ("Orbcomm") at 54-56; LEO One USA Corporation ("LEO One") at 66.

8/ The Preliminary Report of Informal Working Group 2A (NGSO/MSS Below 1 GHz). November 22, 1996, states: "The location of MES installed on moving vehicles, and operating in systems having the capability of dependent or independent position determination, will also be known and OCAAS can assign non-interfering channels to those MES at each interrogation." Id. at para. 4.8.2, page 45.

users.[9/] Just as is the case with fixed stations, MES transmitters operating in close proximity to mobile relay stations will cause significant interference.[10/] If such interference can be avoided through the use of position determination devices in Little LEO user terminals, this factor should be considered in the determination of the feasibility of sharing between land mobile systems and Little LEO systems.[11/] However, as noted above, Little LEO proponents' have urged the Commission not to require position determination capability as part of their systems because of cost and complexity. The position of the Little LEO proponents on this issue makes it impossible to evaluate the feasibility of sharing between their systems and fixed and land mobile systems. Without position determination capability, Little LEO systems will be unable to perform the interference avoidance techniques described in the IWG-2A Preliminary Report. Consequently, these systems will be unable safely to share spectrum with either terrestrial fixed stations or mobile relay stations. The Commission should not, therefore, consider the use of land mobile bands for sharing with Little LEO uplink transmissions.

9/ Id. at 86-89.

10/ Id. at 87.

11/ This is not to say that position determination capability is determinative of the feasibility of sharing between land mobile systems and Little LEO systems. Many other factors concerning the feasibility of sharing remain unaddressed by the Little LEO sharing studies. See Preliminary Report of Informal Working Group 2A (NGSO/MSS Below 1 GHz). November 22, 1996, at 86-88. Rather, position determination capability is one factor identified by Little LEO interests as being necessary to share spectrum with land mobile systems. See supra, note 8.

II. THERE IS INSUFFICIENT SUPPORT FOR THE CLAIM THAT SIGNIFICANT ADDITIONAL SPECTRUM ALLOCATIONS ARE NEEDED FOR LITTLE LEO SERVICE AT WRC-97

Several Little LEO proponents claim in their comments that additional spectrum is needed for Little LEO systems. For example, Final Analysis claims that 13.6 MHz of additional uplink spectrum has been shown to be necessary for Little LEO operations.[12/] This claim, however, is unsupported by public information and is undercut by the comments of other Little LEO proponents.

As a basis for its claim that 13.6 MHz of additional spectrum is needed, Final Analysis relies on ITU-R Sub-Working Group 8D3A-6, Spectrum Demand for Non-GSO MSS Below 1 GHz Services. It should be noted at the outset that this ITU document is not an ITU output document. Instead, it is nothing more than an informational input document submitted to ITU Working Party 8D by Final Analysis summarizing the results of its own market demand study for Little LEO services. This study is flawed in several respects. First, citing proprietary considerations, Final Analysis has refused to make the study public.[13/] The basis of the study is reported to be interviews with 80 potential end users, competitors and industry analysts, but none of the interview questions, including information regarding assumed cost of service, availability of service, or the availability of market substitutes have been disclosed. Without such information, the Final Analysis

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12/ Comments of Final Analysis Communications Services, Inc. ("Final Analysis") at Exhibit 2, p. 2 n.3.

13/ See Minutes of IWG-2A meeting held on December 3, 1996.

market projections cannot be adequately scrutinized, and, in turn, the demand projections it contains cannot be relied upon.

While Final Analysis claims that it has "taken into account" how market substitutes for Little LEO services affect the forecasted demand for these services,[14/] there is no disclosure as to how this factor was incorporated into the market demand study or what the effect of its consideration was on the results of the study. Such disclosure is absolutely critical in light of the contradictory positions taken by several Little LEO proponents on this issue. On the one hand, for example, CTA claims that there are "no ready cost-effective substitutes for Little LEO service, existing or in development."[15/] On the other hand and in stark contrast, GE-Starsys states that "[t]here are a variety of potential substitutes for [Little LEO] services"[16/] and that some of these substitute systems may offer certain advantages over Little LEO systems.[17/] Similarly, Orbcomm also states that "many other operational and planned satellite systems will be capable of offering competing services" to Little LEO systems[18/] and that terrestrial systems will also compete with Little LEO systems for the provision of certain services.[19/] Orbcomm urges the Commission to consider these potential competitors to Little LEO services in

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14/ Comments of Final Analysis, Exhibit 2, Attachment B, at para. 1.3, page 2.

15/ Comments of CTA Commercial Systems ("CTA") at 8.

16/ Comments of GE Starsys at 10.

17/ Id. n.10.

18/ Comments of Orbcomm at 24.

19/ Id. at 25-26.

analyzing the market demand for Little LEO service.[20/] Importantly, Orbcomm notes that any attempt to forecast demand for Little LEO services at this time "would be strictly a hypothetical exercise driven solely by projections or assumptions, and consequently of little real value."[21/] Thus it is clear that accurate and reliable data concerning the projected demand for Little LEO service simply is not available. Further, the contradictory positions of Little LEO proponents concerning the availability of market substitutes for this service indicate that a reliable projection is not possible at this time. Absent reliable and verifiable data demonstrating potential demand for Little LEO services, the Commission should refrain from assigning any additional frequencies for use by Little LEO systems in the U.S.

IV. CONCLUSION

The comments in this proceeding provide several reasons why the Commission should proceed with extreme caution as it considers assigning additional frequencies for use by Little LEO systems in the U.S. Little LEO proponents have failed to demonstrate that sharing between Little LEO uplink transmissions and land mobile systems is feasible. In addition, claims by Little LEO opponents that significant additional spectrum is required

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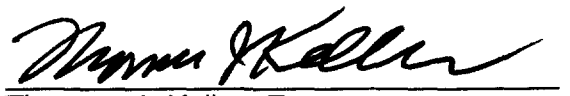
20/ Id.

21/ Id. at 28.

for their systems are both speculative and unverifiable. Consequently, the Commission should not consider the use of any land mobile frequencies for Little LEO uplink transmissions.

Respectfully submitted,

AFFILIATED AMERICAN RAILROADS

By: 

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Date: January 13, 1997

CERTIFICATE OF SERVICE

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